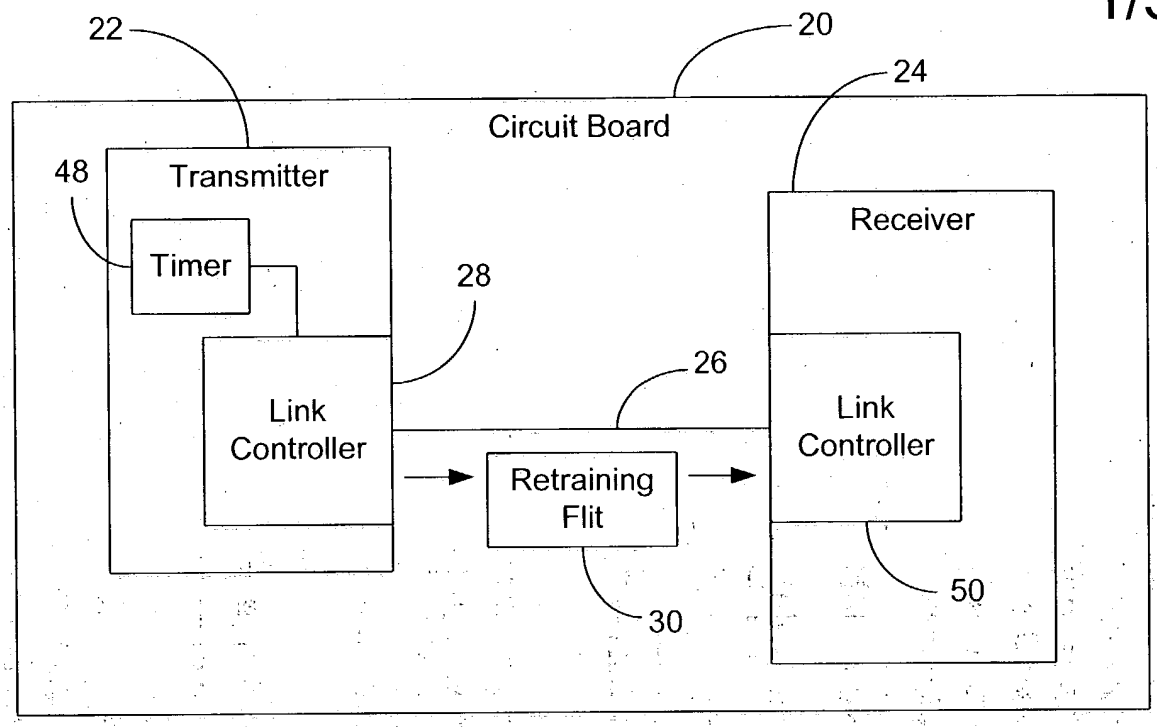
22
20
24
Circuit Board
48
Transmitter
Timer
28
Receiver
26
Link Controller
Retraining Flit
Link Controller
50
30

FIG. 1A

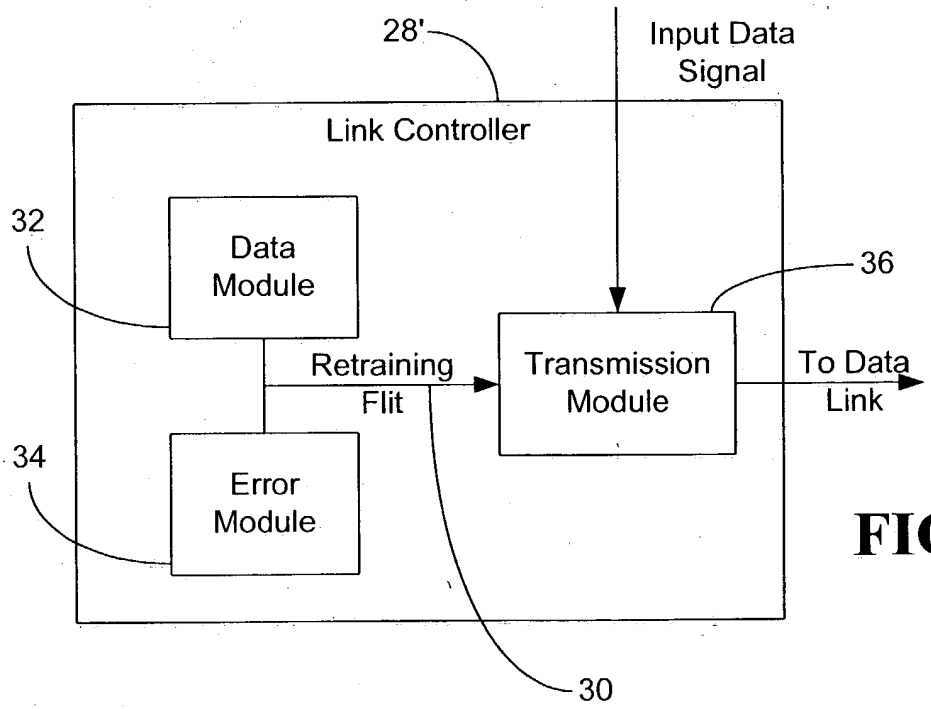
28'
Input Data Signal
Link Controller
32
Data Module
36
Retraining Flit
Transmission Module
To Data Link
34
Error Module
30

FIG. 1B

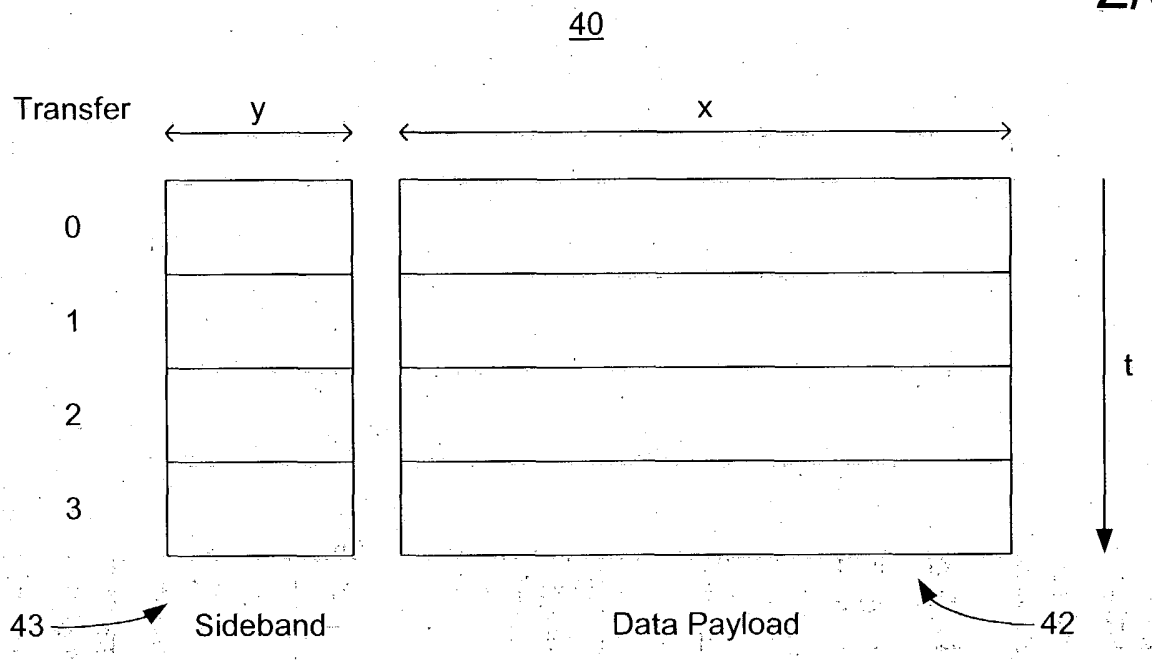
40
Transfer
y
x
0
1
2
3
t
43
Sideband
Data Payload
42

FIG. 2

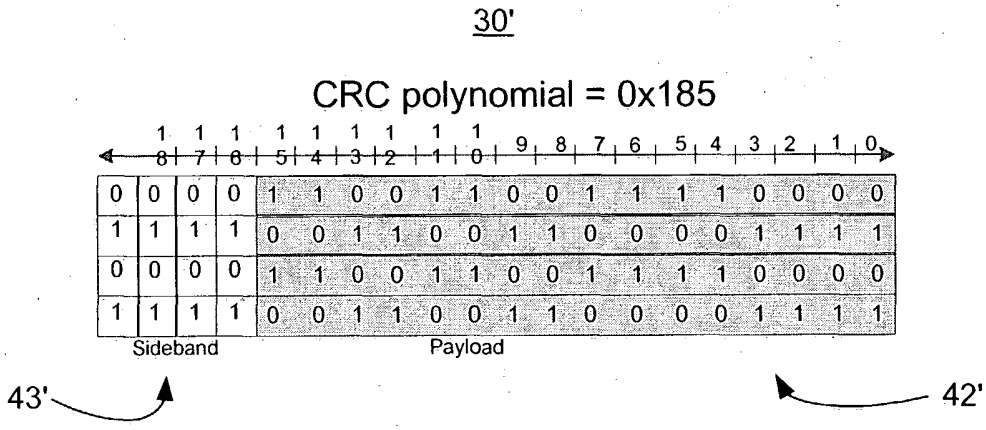
30'
CRC polynomial = 0x185
Sideband
Payload
43'
42'

FIG. 3

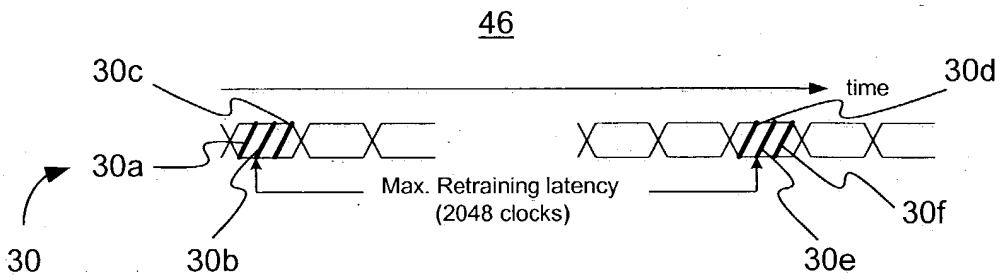

FIG. 4

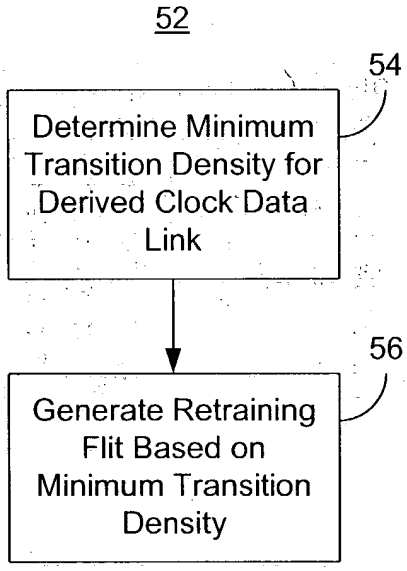

FIG. 5

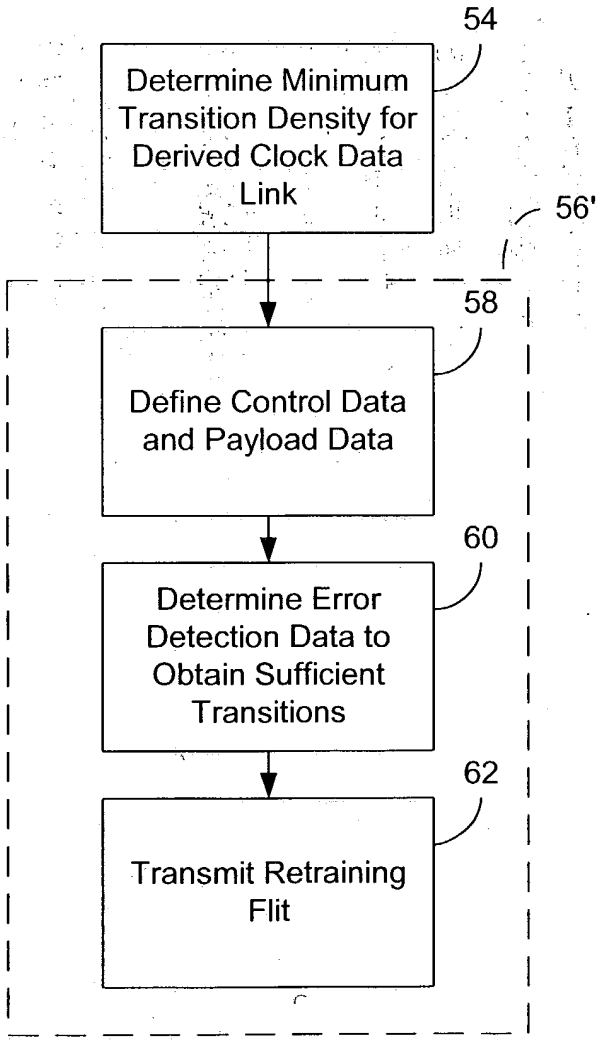

FIG. 6

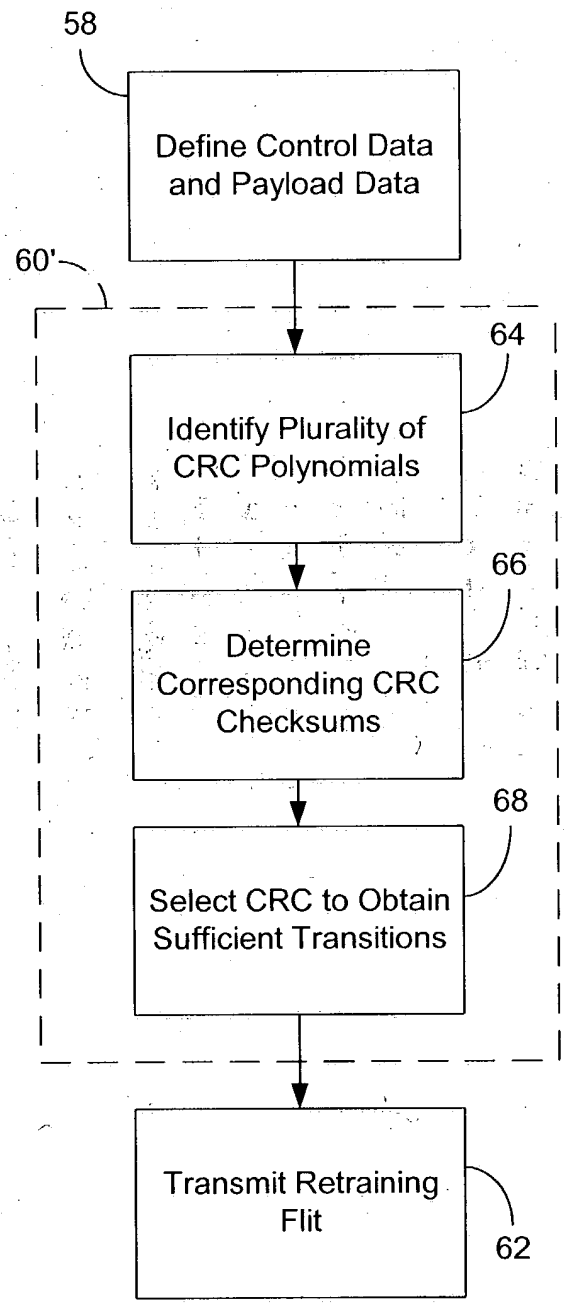
58
Define Control Data and Payload Data
60'
64
Identify Plurality of CRC Polynomials
66
Determine Corresponding CRC Checksums
68
Select CRC to Obtain Sufficient Transitions
Transmit Retraining Flit
62

FIG. 7

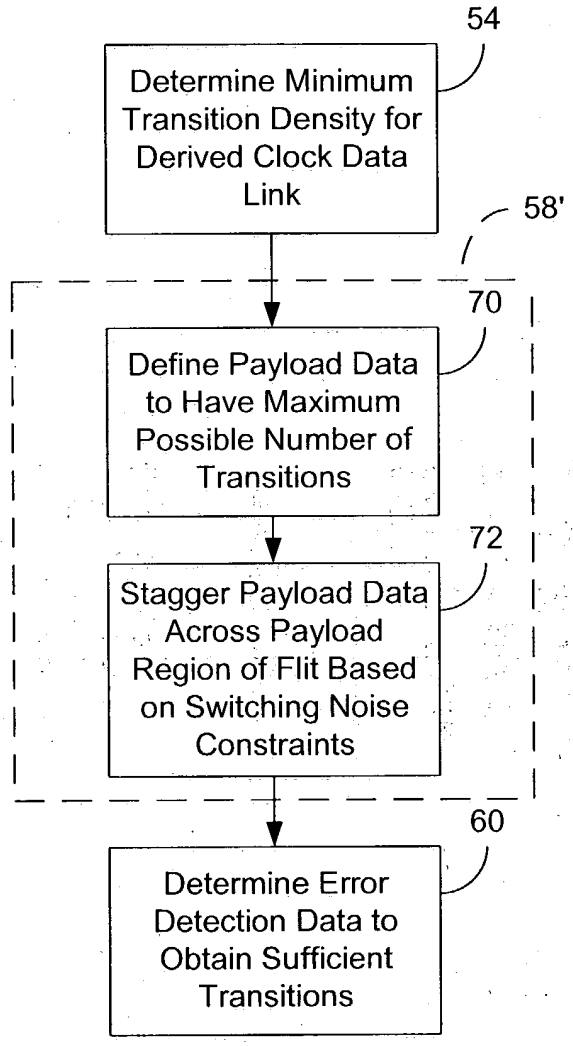
54
Determine Minimum Transition Density for Derived Clock Data Link
58'
70
Define Payload Data to Have Maximum Possible Number of Transitions
72
Stagger Payload Data Across Payload Region of Flit Based on Switching Noise Constraints
60
Determine Error Detection Data to Obtain Sufficient Transitions

FIG. 8

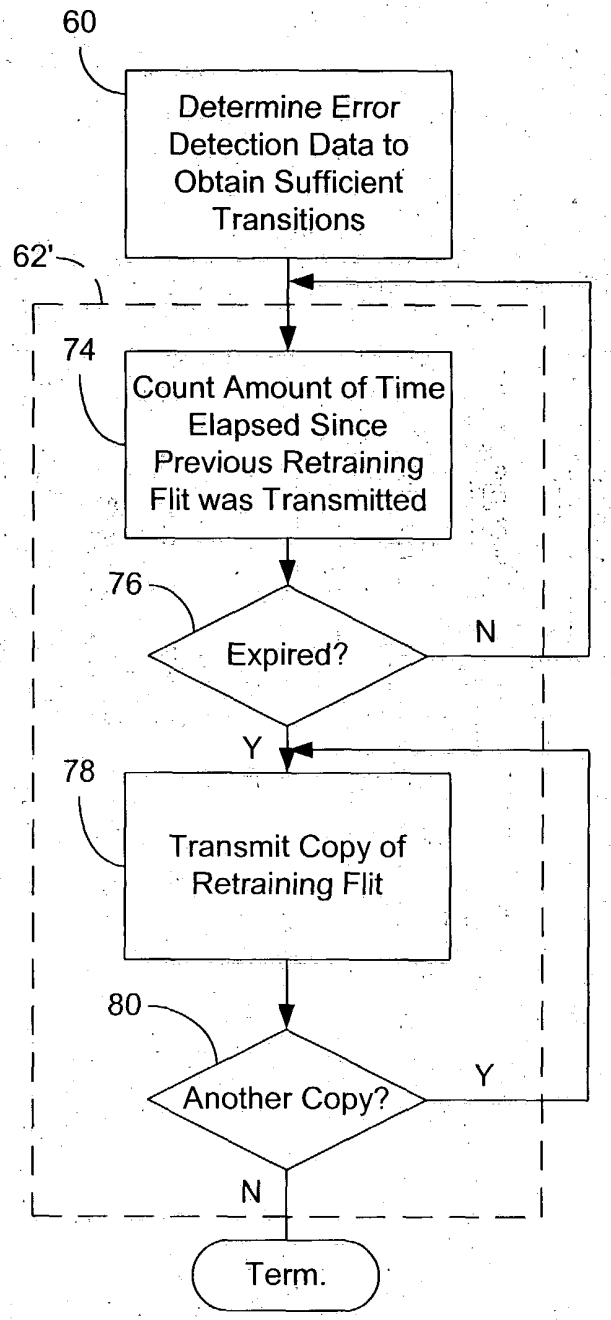
60
Determine Error Detection Data to Obtain Sufficient Transitions
62'
74
Count Amount of Time Elapsed Since Previous Retraining Flit was Transmitted
76
Expired?
N
Y
78
Transmit Copy of Retraining Flit
80
Another Copy?
Y
N
Term.

FIG. 9

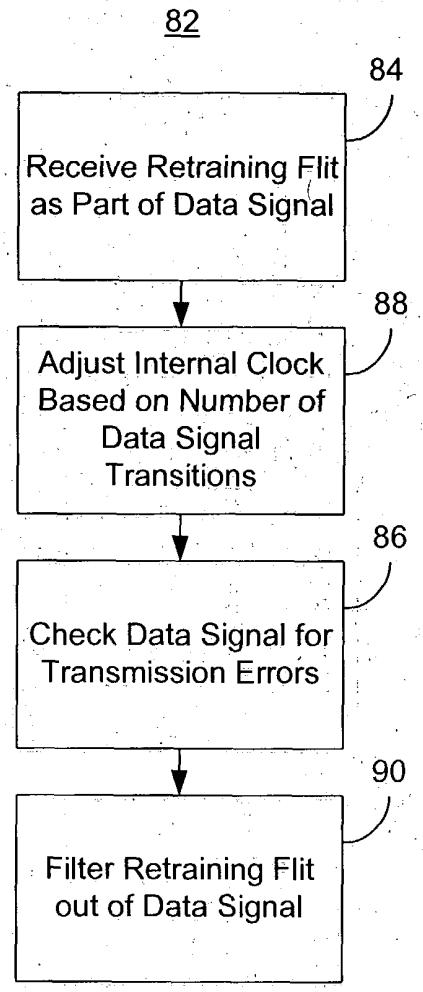
82
84
Receive Retraining Flit as Part of Data Signal
88
Adjust Internal Clock Based on Number of Data Signal Transitions
86
Check Data Signal for Transmission Errors
90
Filter Retraining Flit out of Data Signal

FIG. 10